

**REMARKS**

The Examiner is thanked for the performance of a thorough search.

By this amendment, Claim 10 has been cancelled. Claims 1-3 and 6-9 have been amended to more clearly recite the subject matter for which the Applicants desire patent protection. Amendment is made without acquiescence to the position of the Office Action or prejudice to pursue the claims as originally filed in a continuation application. New Claims 11-18 have been added. Hence, Claims 1-9 and 11-18 are pending in the application.

**REQUEST TO CHANGE ATTORNEY DOCKET NUMBER**

Applicants respectfully request the Attorney Docket Number be changed from "50277-1063" to "50277-2891".

**SPECIFICATION HAS BEEN AMENDED TO CORRECT SEVERAL  
TYPOGRAPHICAL ERRORS**

The Applicants specification inadvertently contained several typographical errors in paragraph 21. Several numerical labels in paragraph 21 have been amended to be consistent with the figures and the remainder of the specification. No new matter has been added.

**THE PENDING CLAIMS ARE PATENTABLE OVER THE CITED ART**

Claims 1-10 stand rejected under 35 U.S.C. § 102(e) as being allegedly unpatentable over U.S. Patent Application Number 2003/0212742 issued to Hochmuth et al. ("Hochmuth"). The rejections are respectfully traversed.

Each of Claims 1-9 and 11-18 are allowable over the cited art because each of Claims 1-9 and 11-18 recite at least one element that is not disclosed, taught, or suggested by the cited art.

Claim 1

Claim 1 recites:

A method comprising performing a machine-executed operation involving instructions, wherein the machine-executed operation is at least one of:

- A) sending said instructions over transmission media;
- B) receiving said instructions over transmission media;
- C) storing said instructions onto a machine-readable storage medium; and
- D) executing the instructions;

wherein said instructions are instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

- at each node of a plurality of nodes, executing a corresponding process; and

**at a database system, receiving a statement specifying an external routine for performing a computation and, in response to receiving the statement:**

- concurrently transmitting a plurality of commands for performing the computation to each said corresponding process;**
- receiving results from each said corresponding process;**
- and**
- completing processing of the statement based on the results received from each said corresponding process.**

At least the above-bolded elements are not disclosed, taught, or suggested by *Hochmuth*.

Claim 1 describes an approach for coordinating a computation. According to Claim 1, each of a plurality of nodes executes a corresponding process. A database system receives a statement that specifies an external routine for performing a computation. In response to receiving the statement, (a) a plurality of commands for performing the computation are concurrently transmitted to each corresponding process, (b) results from each of the corresponding processes are received, and (c) processing of the statement, based on the results received from each corresponding process, is completed.

In sharp contrast to the above subject matter, *Hochmuth* is directed towards an approach for compressing and transmitting composite images (title). *Hochmuth* describes an approach where multiple graphics pipelines 32A-32N convoy digital data streams to a compositor 140, which assembles the individual data streams into a composite data stream (FIG. 2; paragraphs 34-35). *Hochmuth* lacks any mention or suggestion of a

database system. For example, the word “database” does not occur once in *Hochmuth*. Further, no entity in *Hochmuth* receives a statement that specifies an external routine of any nature.

In view of the fundamental distinctions between *Hochmuth* and the features of Claim 1, numerous elements of Claim 1 are not disclosed, taught, or suggested by *Hochmuth*. For example, Claim 1 recites, “at a database system, receiving a statement specifying an external routine for performing a computation.” *Hochmuth* lacks any teaching or suggestion of a database system. In fact, the word “database” does not appear anywhere within *Hochmuth*. The portion of *Hochmuth* cited by the Office Action to show this element (paragraph 35), merely states that the master system 20 may forward a command and/or associated data to slave pipelines 32B-32N, which may in turn forward data to the compositor 140, which may in turn forward data to client 30. However, neither the master system 20, the slave pipelines 32B-32N, the compositor 140, nor the client 30 is a database system.

The steps of (a) concurrently transmitting, (b) receiving results, and (c) completing processing are performed in response to receiving the statement as claimed. As explained above, *Hochmuth* does not teach or suggest anything analogous to receiving a statement as claimed, so it follows that *Hochmuth* cannot disclose, teach, or suggest the steps of (a) concurrently transmitting, (b) receiving results, and (c) completing processing. Further, there are numerous additional reasons why each of these steps is not shown by *Hochmuth*.

For example, *Hochmuth* does not disclose, teach, or suggest the element of “concurrently transmitting a plurality of commands for performing the computation to each said corresponding process.” The portion of *Hochmuth* cited to show this element (paragraph 79) states, *in toto*:

The composite image stored in current image buffer 502 may be estimated by predictor 510. The composite image stored in previous image buffer is input into predictor 510. Predictor 510 may comprise one or more functional units, such as modeling algorithms or circuitries. Preferably, predictor 510 implements autoregressive modeling techniques and comprises a fixed predictor 512 and an adaptive predictor 514. Fixed predictor 512, in general, generates image prediction data based on prior knowledge of image structure data, for example image data of a composite image stored in previous image buffer 504. A predictor step, in essence,

estimates a subsequent sample, for example a current image, based on a future subset of available past data, for example a previous image. Image buffer 500 may have multiple previous image buffers for storing a sequence of previous images and fixed predictor 512 may accordingly be modified to generate predictions based on a plurality of previous images, as is understood by the art. Adaptive predictor 514 estimates a future sample based on model(s) that ‘learn’, or train, from sequences of estimates.

It is unclear, what, if anything, in the above-cited portion of *Hochmuth* could be analogous to “concurrently transmitting a plurality of commands for performing the computation to each said corresponding process.” For example, the above-cited portion lacks any mention or suggestion of a command. Consequently, it is respectfully submitted that for at least the above reasons, *Hochmuth* does not disclose, teach, or suggest the element of “in response to receiving the statement: concurrently transmitting a plurality of commands for performing the computation to each said corresponding process.”

Similarly, Claim 1 recites the element of “completing processing of the statement based on the results received from each said corresponding process;” however, no portion of *Hochmuth* discloses, teaches, or suggests a statement as claimed, as explained above. Consequently, this element cannot be shown by *Hochmuth*. For example, the portion of *Hochmuth* cited to show this element (paragraph 44) lacks any suggestion of completing processing of a statement that is (a) received by a database system and (b) specifies an external routine for performing a computation.

Accordingly, it is respectfully submitted that the approach of *Hochmuth* does not disclose, teach, or suggest at least the above-discussed elements of Claim 1. Consequently, it is respectfully submitted that amended Claim 1 is patentable over the cited art and is in condition for allowance.

## Claim 2

Independent Claim 2 features:

“receiving a statement, at a database system, specifying an external routine for performing the computation; and  
in response to receiving the statement:  
transmitting a plurality of commands for performing the

computation to a plurality of respective processes; receiving results from each said corresponding process; and completing processing of the statement based on the results received from each said corresponding process.”

Independent Claim 2 recites features similar to those discussed above with respect to Claim 1. Thus, Claim 2 is patentable over *Hochmuth* for at least the reasons discussed above with respect to Claim 1. For example, the element of “receiving a statement, at a database system, specifying an external routine for performing the computation,” recited in Claim 2, is not disclosed, taught, or suggested by *Hochmuth* because, *inter alia*, *Hochmuth* does not disclose, teach, or suggest (a) a database system, or (b) receiving a statement that specifies an external routine for performing a computation. Further, since *Hochmuth* lacks any suggestion of receiving a statement as claimed, *Hochmuth* cannot disclose, teach, or suggest the elements of (a) transmitting the plurality of commands, (b) receiving results, or (c) completing processing.

Accordingly, it is respectfully submitted that the approach of *Hochmuth* does not disclose, teach, or suggest at least the above-quoted elements of Claim 2. Consequently, for at least the above reasons, it is respectfully submitted that amended Claims 2 is patentable over the cited art and is in condition for allowance.

Claims 3-9 and 11-18

Claims 3-9 and 11-18 are dependent claims, each of which depends (directly or indirectly) on one of the claims discussed above. Each of Claims 3-9 and 11-18 is therefore allowable for the reasons given above for the claim on which it depends. In addition, each of Claims 3-9 and 11-18 introduce one or more additional limitations that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those limitations is not included at this time, although the Applicants reserve the right to further point out the differences between the cited art and the novel features recited in the dependent claims.

## CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any fee shortages or credit any overages to Deposit Account No. 50-1302.

Respectfully submitted,

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### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: **Mail Stop Amendment**, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

On September 8, 2005

By



Angelica Maloney